

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A process for sequestering carbon in the atmosphere, comprising:
  - a) ~~a step for concentrating CO<sub>2</sub> in a liquid phase~~ a step for concentrating CO<sub>2</sub> in the liquid phase, said step comprising any of the following: (i) liquefying CO<sub>2</sub> in the liquid phase under pressure up to the supercritical state; (ii) absorbing CO<sub>2</sub> in a polar aprotic liquid, not miscible with water, or miscible with water in various proportions; (iii) absorbing CO<sub>2</sub> in an aqueous phase containing an alcohol and/or an amine; (iv) absorbing CO<sub>2</sub> in the hydrated form in a solvent, activated by an enzymatic pathway, with the provision that in (iii) and (iv) absorbed CO<sub>2</sub> in the aqueous phase is transferred to a water-insoluble ionic liquid medium;
  - b) a step for electro-reduction of resultant liquid phase containing ~~concentrated CO<sub>2</sub> or carbonic acid liquid or absorbed CO<sub>2</sub>~~, in an aprotic medium to oxalic acid or formic acid in which the carbon changes to oxidation number +3;
  - c) if appropriate, a step for extracting said oxalic acid or formic acid in an aqueous phase; and
  - d) a step for mineralization by reacting said oxalic acid or formic acid with a carbonate of an element M, producing a mineral in which the atomic ratio C/M is about 2/1, wherein M is any metallic element with an oxidation number of +2, and C is carbon, and wherein the oxalic acid and formic acid are in an acid or salt form.
2. (Previously Presented) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises liquefying said CO<sub>2</sub>, the liquid CO<sub>2</sub> then being

obtained under pressure, up to the supercritical state.

3. (Previously Presented) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises absorbing CO<sub>2</sub> in a polar aprotic liquid, not miscible with water or miscible with water in various proportions.
4. (Previously Presented) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises absorbing CO<sub>2</sub> in an aprotic ionic liquid not miscible with water or miscible with water in various proportions.
5. (Previously Presented) A process according to claim 4, characterized in that said ionic liquid comprises 1-butyl-3-methylimidazolium hexafluorophosphate.
6. (Previously Presented) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises absorbing CO<sub>2</sub> in an aqueous phase containing an alcohol and/or an amine.
7. (Currently Amended) A process according to claim 1, characterized in that step a) for concentration in the liquid phase comprises absorbing CO<sub>2</sub> in a hydrated form, ~~said concentration~~ being activated by an enzymatic pathway.
8. (Previously Presented) A process according to claim 7, characterized in that the hydration activating enzyme comprises carbonic anhydrase.
9. (Currently Amended) A process according to claim 8, characterized in that the ~~solution~~ resultant liquid phase obtained is then recycled to a process for absorption of CO<sub>2</sub> in an aqueous phase in the presence of an alcohol and/or amine.
10. (Previously Presented) A process according claim 9, characterized in that the aqueous phase obtained is recycled to a liquefaction process of CO<sub>2</sub> under pressure.

11. (Previously Presented) A process according to claim 6, characterized in that the aqueous solution obtained is transferred by a liquid-liquid extraction process to an ionic liquid medium which is insoluble in water.
12. (Previously Presented) A process according to claim 1, in which the electro-reduction step b) is carried out at a pH in the range of 3 to 10 and with an anode maintained at a potential of +0.5 to -3.5 volts with respect to a normal hydrogen electrode.
13. (Previously Presented) A process according to claim 12, in which the pH is in the range of 3 to 7.
14. (Previously Presented) A process according to claim 12, in which the anode used in the electro-reduction step is constituted by platinum, diamond-doped with boron or carbon doped with nitrogen.
15. (Previously Presented) A process according to claim 1, in which the electro-reduction step b) is carried out in liquid CO<sub>2</sub> under pressure.
16. (Currently Amended) A process according to claim 1, in which ~~the a~~ a compound from electro-reduction step b) comprises said oxalic acid or an oxalate.
17. (Currently Amended) A process according to claim 16, in which the oxalic acid or oxalate, obtained in ~~an~~ the aprotic medium, is re-extracted by an aqueous phase.
18. (Previously Presented) A process according to claim 1 in which, at the end of step a), liquid CO<sub>2</sub> is injected into a subterranean CO<sub>2</sub> store.
19. (Previously Presented) A process according to claim 18, in which electro-reduction step b) is carried out in the subterranean CO<sub>2</sub> store.

20. (Currently Amended) A process according to claim 1, incorporating step (c) in which a final mineralization step comprises an attack of a carbonated mineral by an aqueous solution of oxalic acid or formic acid from the ~~electro-reduction step (b)~~ extracting step (c).
21. (Currently Amended) A process according to claim 19, in which said ~~carbonated~~ mineral comprises a calciferous or magnesia-containing carbonated mineral.
22. (Previously Presented) A process according to claim 1, in which the element M is calcium and the mineral produced is Whewellite,  $\text{CaC}_2\text{O}_4 \cdot \text{H}_2\text{O}$ .
23. (Currently Amended) A process according to claim 1, in which the mineralization step comprises bringing an aqueous solution of oxalic acid or formic acid derived from the ~~electro-reduction~~ extracting step into contact with a calciferous or magnesia-containing sedimentary rock.
24. (Previously Presented) A process according to claim 1, in which a final mineralization step comprises injection into a substratum.
25. (Previously Presented) A process according to claim 2, in which the electro-reduction step b) is carried out in liquid  $\text{CO}_2$  under pressure.
26. (Currently Amended) A process according to claim 25, incorporating step (c) in which a final mineralization step comprises an attack of a carbonated mineral by an aqueous solution of oxalic acid or formic acid derived from the ~~electro-reduction step (b)~~ extraction step (c).
27. (Previously Presented) A process according to claim 26, in which said carbonated mineral comprises a calciferous or magnesia-containing carbonated mineral.
- 28-29. (Cancelled)